Measures to Minimize Adverse Effects

for

Project 1440-13/15-00
WIS 23 (Fond du Lac - Plymouth)
Fond du Lac and Sheboygan Counties

MEASURES TO MINIMIZE ADVERSE EFFECTS

Section 101(b) of the National Environmental Policy Act (NEPA) requires that federal agencies incorporate into project planning all practicable measures to mitigate adverse environmental impacts resulting from the proposed action. This section summarizes concept-level impact mitigation commitments for the WIS 23 improvement project. Proposed mitigation measures reflect comments received from the public and agencies during the Draft EIS preparation process. Agency coordination will continue through the construction phase of the project. During that time, concept-level commitments will be developed in detail. Final mitigation plans will be implemented by inclusion in the final engineering plans and specifications.

TRANSPORTATION

A traffic management plan will be developed and implemented to ensure reasonably convenient access to residences, businesses, farm parcels, community services, and local roads during construction. Work will be staged to minimize disruption during the construction period. To minimize delays to emergency vehicles, WisDOT will coordinate construction activities, staging, and traffic management plans with local fire, police, and emergency rescue districts and school districts. Traffic flow will be maintained during construction to the maximum extent possible. Lengthy detours will be minimized; however, it is anticipated that, for various durations, side road connections will be closed to accommodate construction activities.

AESTHETICS

Measures to minimize adverse aesthetic impacts will include roadway design features to blend existing landscape, planting and natural vegetation of the cut and fill slopes. This may include planting wildflower species. Vegetative screening will be considered where practicable to minimize the impacts to adjacent properties. WisDOT will preserve the existing vegetation as much as possible.

NOISE AND AIR QUALITY

To reduce the short-term impacts of construction noise, the special provisions for this project will require that motorized equipment be operated in compliance with all applicable local, state and federal laws and regulations on noise levels permissible within and adjacent to the project construction site.

FHWA has established a set of policies and procedures related to traffic noise that are to be applied to federal aid projects. These are currently described in Federal Aid Policy Guide (FAPG) Part 772, entitled "Procedures for Abatement of Highway Traffic Noise and Construction Noise." The provisions of this FAPG apply to federal aid projects without regard to a jurisdictional system. They apply to highway construction or reconstruction projects, as well as to projects undertaken solely for noise abatement purposes along existing highways.

Noise mitigation may be achieved through a variety of measures that modify the noise source, noise path, or receiver characteristics. A preliminary noise barrier evaluation indicates that noise barriers do not appear to be economically practical. Consideration of noise barriers for residences adjacent to the new roadway alignment will be in accordance with Wisconsin Administrative Code Chapter TRANS 405, which states that noise barriers must reduce the noise levels by a minimum of 8 decibels and must be cost effective. Noise barriers are not practicable for isolated individual rural residences. To be effective, noise barriers must be continuous, without openings for driveways or access. Barriers cannot be used in instances where the relocation of streets and driveways is not reasonable.

Dust control will be accomplished in accordance with the WisDOT Standard Specifications, which require application of water or other approved dust control methods during grading operations on haul roads. The location and operation of asphaltic batch plants will follow the Standard Specifications and any special provisions developed during coordination with WDNR regarding air quality standards and emissions. Any portable material plants would be operated in accordance with WDNR air quality requirements and guidelines. Demolition and disposal of structures is regulated under the WDNR's asbestos renovation and demolition requirements (Wisconsin Administrative Code, Chapter NR 447).

PROPERTY ACQUISITION

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended provides for payment of just compensation for property acquired for a federal aid project. In addition to acquisition price, costs for the replacement dwelling or business location, moving expenses, increased rental or mortgage payments, closing costs, and other valid relocation costs are covered. No person or business will be displaced unless a comparable replacement dwelling or business location, or other compensation where a suitable replacement business location is not practicable, is provided. All of the above compensation is available to all displaced persons without discrimination.

Before property acquisition activities begin, property owners will be contacted with an explanation of the details of the acquisition process and Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes. One or more professional appraisers will inspect any property acquired. The property owner will be invited to accompany the appraiser during the property inspection. An independent property appraisal by the owner can also be provided. Based on the appraisal(s) made, the value of the property will be determined and an amount offered to the owner.

Property acquisition not involving residential, business, or other building relocations is also compensated in accordance with state and federal laws. In consultation with affected landowners, the value of the required right-of-way or access rights will be appraised and the owner compensated at fair market value. The property owner may obtain an independent appraisal. If the fair market value cannot be reached, the property owner will be advised promptly of the procedure to follow in making an appeal.

Any septic tanks, drain fields, or wells on properties to be acquired will be abandoned by state regulations and local zoning standards.

MATERIAL SOURCE / DISPOSAL SITES

Selection of borrow material sites are the responsibility of the construction contractor subject to approval by WisDOT. It is anticipated that borrow will be obtained locally from existing sites that are properly zoned.

WisDOT makes the arrangements to have archival and literature searches conducted for off-site construction activity areas, such as borrow sites, batch plants and waste sites to determine whether archaeological sites, burials or mounds are present. The contractor is notified with the research results. When necessary, the contractor is responsible for coordination with the State Historical Society and for obtaining the services of an archaeologist.

The contractor in accordance with the *Standard Specifications For Road and Bridge Construction* or project special provisions will dispose of unusable excavated material to ensure protection of wetlands and waterways. The contractor is responsible for identifying the appropriate disposal site and obtaining written permission from the property owner.

All waste and demolition material from project construction activities will be disposed of in approved upland areas or at licensed solid waste disposal sites under the Standard Specifications or project special provisions, to ensure protection of wetlands and waterways.

Erosion Control and storm water management will be followed at the borrow site or waste area as set forth in Trans 401, Wisconsin Administrative Code and the WISDOT/WDNR Cooperative Agreement. The contractor’s Erosion Control Implementation Plan (ECIP) for borrow sites and waste areas will cover erosion control. The ECIP will establish the schedule of implementation for temporary and permanent erosion control devices on the highway project and at the project borrow or waste sites. The ECIP will become part of the contract and will be submitted to WisDOT for approval and to WDNR for concurrence.

Revegetation of the project site, including borrow pit sites and waste areas will be incorporated as a component of the project's erosion control plan, ECIP and construction contract. Revegetation and stabilization of cleared and graded areas shall be accomplished by using a combination of seed, mulch, erosion mat, or sod. Revegetation will occur as soon as practicable following the grading operations of the project.

WATER QUALITY, HYDROLOGY, AND HYDRAULICS

WisDOT through Trans 401, Wisconsin Administrative Code and the WisDOT/WDNR Cooperative Agreement will comply with the substantive requirements of Chapter 147, Wisconsin Statutes, Wisconsin Pollutant Discharge Elimination System (WPDES). WisDOT, as per the WisDOT/WDNR Cooperative Agreement, will contact the area WDNR liaison person and coordinate with the WDNR prior to performing any construction activities that may adversely affect waters of the state.

Creek, slough, and wetland involvement associated with the proposed project is subject to individual permits under Section 404 of the Clean Water Act (33 USC 1344). The permit program, administered by the U.S. Army Corps of Engineers (COE), covers the discharge of fill material into the waters of the United States, including wetlands. Issuance of Section 404 permits is contingent on receipt of water quality certification from WDNR under Section 401 of the Clean Water Act and Wisconsin Administrative Code Chapter NR 299. Individual 404 permits will be required for this project. Coordination with WDNR in this regard is accomplished under the Cooperative Agreement.

Precautions will be taken at the Sheboygan and Mullet River crossings to preclude erosion and stream siltation. All crossing work will be coordinated with WDNR to ensure protection of fish habitat and water quality. Impacts to water quality will be minimized through the implementation of erosion control measures according to the erosion control plan included in the construction contract, the Standard Specifications, and project special provisions. In addition, construction near surface waterways will be avoided during periods of high snowmelt or rains. Erosion control devices will be installed before erosion prone construction activities begin.

Temporary and permanent erosion control measures may include: silt fence, retention basins, erosion mat, mulching, rip rap, erosion bales, and seeding and sodding. These measures will remain in place until new plantings are established.

Structure sizing will be performed in accordance with state and federal guidelines regarding floodplain encroachment and hydraulic capacity. All new structures over navigable waters will be consistent with the provisions of the Wisconsin Administrative Code Chapter NR 116 as administered under the Cooperative Agreement between WisDOT and WDNR. WisDOT will mitigate any project impacts to waterways. This mitigation could be achieved through acquiring easements and/or working with the local agencies to change the applicable zoning ordinances.

Drainage systems, including ditches on private lands, will be maintained, restored, or re-established in a manner that will not impound water. Permanent retention facilities will be considered in areas adjacent to streams and wetlands so roadway runoff will be intercepted before entering the waterway. The care and treatment of bridge runoff will be consistent with the latest federal and state laws and regulations. Selection of construction staging areas will be performed in accordance with the Standard Specifications or special provisions to ensure that they will not adversely affect wetlands, streams or drainage ways.

During the preliminary design phase, soil borings will be taken to evaluate groundwater levels and the potential of the new highway construction impeding subsurface drainage to adjoining wetlands. If it is determined that groundwater flows will be adversely affected, then special measures, such as the use of geotextile underdrains or the construction of collector ditches, would be incorporated into the design to ensure that the natural integrity of wetland communities is protected. Special design techniques, when required, are coordinated with WDNR. As a minimum, equalizer culverts will be installed at frequent intervals along the roadway to maintain the natural flow of groundwater through the wetland.

Accidental spills have the potential to occur during refueling at construction sites or as the result of an accident involving petroleum or chemical haulers that use WIS 23. They will be handled by local government response procedures. First response is through local fire departments and emergency service personnel to ensure public safety and to contain immediate threats to the environment. Depending on the nature of the spill, WDNR is notified to provide additional instructions regarding cleanup and restoration of the carrier involved in the accidental spill. WisDOT Standard Specifications state that the construction project contractor shall enforce public safety and environmental protection measures.

Coordination with WDNR will continue during the engineering design phase, and will include obtaining their input on erosion control, structure plans, and construction sequencing to avoid critical fish spawning periods.

FISH, WILDLIFE, AND THREATENED AND ENDANGERED SPECIES

The construction contractor's plan of operations will identify the location of all haul roads, material storage sites, and any other lands which may be disturbed outside the construction zone. WDNR and WisDOT will review the plan to assure the construction impacts to fish and wildlife habitat are minimized.

Mitigation measures proposed to protect water quality; wetlands and upland vegetation will directly benefit fish and wildlife resources. These measures will help to maintain the quality of surface waters for use by aquatic flora and fauna. These measures will also minimize wetland loss and degradation, and will help preserve the functional integrity of upland wildlife habitats.

Mitigation measures considered to reduce impacts to wildlife include scheduling construction during non-breeding seasons and effective erosion control measures. Other mitigation measures include the development of vegetative plantings of known value to wildlife. The details of these and any other conceptual mitigative measures will be developed and coordinated with the WDNR, USFWS, COE, and EPA during design now that after the final roadway corridor is selected and closer to the project construction.

Because this is a study project and no construction date has been scheduled yet, it is recommended that the list of state and federal threatened and endangered species be revisited about 3 years prior to construction. Then a biological assessment will be prepared for the selected corridor if federally listed species are present in the project area.

The project will be designed to minimize impacts to any threatened or endangered species. Should threatened or endangered species be located within the selected corridor, WDNR/WisDOT coordinated effort will be made to reach a mitigation plan to address the issue.

Bridge and culvert construction will be scheduled to avoid migratory bird species nesting and brooding seasons. Work on existing structures will be restricted during May 15 to August 20, the bird nesting/brooding seasons or use of netting can be used to minimize impacts.

To the maximum extent possible, the highway construction zone will be limited to minimize direct losses to wetland sites and other sensitive habitats.

Where appropriate, the revegetation program will utilize special seed mixtures that will enhance roadside wildlife habitat value. Seed selection will be the responsibility of WisDOT, with guidance as appropriate from WDNR. WDNR encourages the use of native species.

Construction site erosion and sediment control procedures will be followed as set forth in TRANS 401, WI Administrative Code and the WisDOT/WDNR Cooperative Agreement. During project design an erosion control plan will be developed in consultation with WDNR. Appropriate techniques and best management practices as described in WisDOT's Design Facilities Development Manual will be employed to prevent erosion and minimize siltation to any drainage ways to be crossed by this project. These techniques may include the use of temporary and permanent sediment traps, turbidity barrier, silt fence, sodding, ditch checks, erosion mat, temporary and permanent seeding and other means to prevent erosion and retard sediment transport. Revegetation will be incorporated as a component of the construction contract.

WETLANDS

Executive Order 11990, Protection of Wetlands, requires federal agencies "...to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands wherever there is a practicable alternative...". The Order states further that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands In accordance with state and federal agency policies and regulations for wetland preservation, including the Section 303 (b) (1) Guidelines for Specifications of Disposal Sites for Dredged or Fill Material (40 CFR, Part 230).

During construction, impacts to wetlands from erosion and sediment transport will be minimized or prevented by implementing erosion control best management practices as specified in the construction contract and by ensuring that the practices implemented conform to the contract's special provisions and the WisDOT's Standard Specifications for Road and Bridge Construction.

Avoidance

Because the reasonable Build Alternatives are orientated to the existing WIS 23 corridor, there are scattered wetlands along both sides of the highway and it is not possible to avoid wetland impacts completely. However, where possible and practical, the alignment was shifted to avoid wetland impacts. Alternatives 2 and 4, in Segment B were specifically shifted to avoid wetland impacts.

Minimize Wetland Impacts

WisDOT, in coordination with the WDNR have identified wetland sites that may be affected by the proposed alternatives. Through detailed mapping these wetlands known for the engineering phase. WisDOT design will provide additional measures to minimize wetland impacts such as keeping roadway sides slopes as steep as practicable, disposing of excavated material on new roadway side slopes. These concepts will help minimize wetland losses and will protect the functional integrity of the wetland resources, both during and after construction.

Wetland Compensation

Compensation for unavoidable wetland loss will be carried out in accordance with the interagency *Wetland Mitigation Banking Technical Guideline* developed as part of the WisDOT/WDNR *Cooperating Agreement on Compensatory Wetland Mitigation*. Unavoidable wetland loss will be fully compensated at an appropriate replacement ratio that would be no less than 1:1 (one acre restored / created for each acre lost). The final ratio could vary depending on the criteria presently in place in the *Wetland Mitigation Baking Guidelines*. The replacement ratio can range from 1.5:1 to as high as 2:1 depending on the risk assessment.

UPLANDS AND WOODLANDS

Mitigation for upland habitat disruption includes the replacement of disturbed vegetation within the right-of-way under the Wisconsin Standard Specifications for Road and Bridge Construction. During construction, cleared and graded areas will be seeded or sodded. The seeding and/or sodding will be staged to follow the grading operations to the maximum extent possible. Revegetation measures will minimize upland wildlife habitat loss. It is anticipated that the habitat will return after the construction is completed.

CONTAMINATED SITES

In the event that petroleum sites are located prior to construction, WisDOT will work with all concerned to ensure that the disposition of any petroleum contamination is resolved to the satisfaction of the WDNR, WisDOT Bureau of Environment, and FHWA before acquisition of any questionable site and before advertising the project for letting.

Non-petroleum sites will be handled on a case-by-case basis with detailed documentation and coordination with FHWA as needed.

If any contaminated soils are identified during construction, they will be disposed of under applicable state and federal laws and guidelines.

HISTORICAL / ARCHAEOLOGICAL RESOURCES

WisDOT has made efforts throughout the project planning stages to avoid direct impacts to archaeological sites and historical sites. Some archaeological sites were located in the project area and further investigation may be necessary to determine their eligibility for inclusion in the National Register of Historic Places (NRHP). Survey for these areas will be conducted after the corridor has been selected. Section 106 requirements will be completed according to the agreement between FHWA, SHPO, and WisDOT for projects with construction in outlying years.

WisDOT will continue to coordinate with the State Historical Preservation Office (SHPO), Native American Tribes, and interested agencies to determine the project's effect upon historic sites that are potentially eligible

for inclusion on the National Register of Historic Places. If an eligible site is to be effected by the alternative chosen, consultation between the SHPO and the Federal Highway Administration will be undertaken to determine the project's effect upon the site and to arrive at a mitigation plan for the resource. All Section 106 requirements will be fulfilled.

PUBLIC USE LANDS

The Kettle Moraine State Forest and Ice Age Trail cross WIS 23 in Sheboygan County. Construction will include an underpass to separate the trail crossing from WIS 23 and acquisition of lands to compensate the state park for the loss of land for highway purposes.

WIS 23 passes by the Old Wade House State Park and is adjacent to the Old Plank Road Trail. The proposed construction would take place on the north side of the existing highway and would not impact the lands. The proposed underpass for the Ice Age Trail may require slight realignment or regarding of a small portion of the Old Plank Road Trail.

AGRICULTURAL LAND

Once a corridor is selected, during the final design, consideration will be given to selecting an alignment that minimizes the impacts to agricultural fields and buildings. During construction, reasonable access will be provided to agricultural land. Existing drainage systems, ditches and tiles, will be kept operational at all times during construction. WisDOT will work with farm owners to minimize project impacts. Full consideration will be given to the recommendations of the Department of Agriculture, Trade, and Consumer Protection's Final Agricultural Impact Statement. This recommendation will be provided in the Agricultural Impact Statement to be written after the corridor is selected.

POLLUTION PREVENTION

WisDOT plans carefully to avoid the creation of pollution and any subsequent environmental degradation. Review is given to the project's design criteria, including geometric standards, construction standards and specifications, project sizing and the location of the facility. WisDOT regularly recycles demolition debris and incorporates the recycled products back into the project base course, new pavements, riprap for stream bank stabilization, etc. Habitat is restored to maintain foliage, fish and wildlife diversity. WisDOT reviews roadway treatment to assess and devise methods to channel run-off away from water resources. In highway projects, pollution prevention has automatically occurred due to the cost reduction efforts of WisDOT.

WisDOT utilizes coal incinerator ashes and foundry sand in various highway construction activities. Recycling of these ashes and foundry sand is considered by EPA to be a pollution prevention initiative beneficial re-use initiative. These waste products (fly ash and foundry sand) otherwise would be disposed of in a landfill. WisDOT has used coal ash for the following: fly ash (precipitant from the smoke stack) in place of Portland cement in concrete; bottom ash (boiler ash) as a roadway embankment fill and when mixed with asphalt it has been used in place of chip sealing on town road maintenance projects. WisDOT has used foundry sand as roadway embankment fill and a replacement to select borrow.

This project has the potential for industrial by-product re-use. Further evaluation of the potential use, location(s), type, quantity, and supplier will follow in the design phase of the project.

WisDOT has limited opportunity to use old tires in the construction of highways. WisDOT has used old tires in the construction of noise barriers and in limited asphaltic pavement designs. The State of Wisconsin has a policy to incinerate used rubber tires as an energy fuel source for power generation at power plants throughout the state. The State of Wisconsin was mandated to do away with all used rubber tire stockpiles by July 1, 1995. The State of Wisconsin has met this commitment to comply with the mandate. The policy has been so successful that the State of Wisconsin has started incinerating used tires from neighboring states.

All waste and demolition material that cannot be recycled through incorporation into the projects design and construction will be disposed of in accordance with WisDOT Standard Specifications for Road and Bridge Construction. Disposal will be in compliance with all applicable federal and state regulations relating to solid waste.